



A systematic review of attentional biases in disorders involving binge eating

Monika Stojek ^{b,1}, Lisa M. Shank ^{c,d,1}, Anna Vannucci ^{c,d}, Diana M. Bongiorno ^e, Eric E. Nelson ^{f,g}, Andrew J. Waters ^c, Scott G. Engel ^h, Kerri N. Boutelle ⁱ, Daniel S. Pine ^e, Jack A. Yanovski ^d, Marian Tanofsky-Kraff ^{c,d,*}

^b Department of Psychiatry, Emory University School of Medicine, Emory Veterans Program, 12 Executive Park Drive, Atlanta, GA, 30329, USA
^c Department of Medical and Clinical Psychology, Uniformed Services University of the Health Sciences (USUHS), DoD, 4301 Jones Bridge Road, Bethesda, MD, 20814, USA
^d Section on Growth and Obesity, Program in Developmental Endocrinology and Genetics, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), National Institutes of Health (NIH), DHHS, 10 Center Drive, Bethesda, MD, 20892, USA
^e Section on Development and Affective Neuroscience, National Institute of Mental Health, NIH, DHHS, 15K North Drive, Bethesda, MD, 20892, USA
^f The Research Institute at Nationwide Children's Hospital, Center for Biobehavioral Health, 700 Children's Drive, Columbus, OH, 43205, USA
^g Ohio State University, Department of Pediatrics, 700 Children's Drive, Columbus, OH 43205, USA
^h Neuropsychiatric Research Institute, 120 8th Street, Fargo, ND 58107, USA
ⁱ Department of Psychiatry, Department of Pediatrics, University of California, San Diego, 9500 Gilman Drive, MC 0874, La Jolla, CA, 92037, USA

ARTICLE INFO

Article history:
 Received 15 September 2017
 Received in revised form 16 January 2018
 Accepted 19 January 2018
 Available online 31 January 2018

Keywords:
 Binge eating
 Attentional bias
 Food
 Weight
 Shape
 Social threat

ABSTRACT

Objective: Attentional bias (AB) may be one mechanism contributing to the development and/or maintenance of disordered eating. AB has traditionally been measured using reaction time in response to a stimulus. Novel methods for AB measurement include eye tracking to measure visual fixation on a stimulus, and electroencephalography to measure brain activation in response to a stimulus. This systematic review summarizes, critiques, and integrates data on AB gathered using the above-mentioned methods in those with binge eating behaviors, including binge eating, loss of control eating, and bulimia nervosa.

Method: Literature searches on PubMed and PsycInfo were conducted using combinations of terms related to binge eating and biobehavioral AB paradigms. Studies using AB paradigms with three categories of stimuli were included: food, weight/shape, and threat. For studies reporting means and standard deviations of group bias scores, Hedges' *g* effect sizes for group differences in AB were calculated. **Results:** Fifty articles met inclusion criteria and were reviewed. Individuals who binge eat in the absence of compensatory behaviors show an increased AB to food cues, but few studies have examined such individuals' AB toward weight/shape and threatening stimuli. Individuals with bulimia nervosa consistently show an increased AB to shape/weight cues and socially threatening stimuli, but findings for AB to food cues are mixed.

Discussion: While there are important research gaps, preliminary evidence suggests that the combination of AB to disorder-specific cues (i.e., food and weight/shape) and AB toward threat may be a potent contributor to binge eating. This conclusion underscores previous findings on the interaction between negative affect and AB to disorder-specific cues. Recommendations for future research are provided.

© 2018 Elsevier Ltd. All rights reserved.

Contents

1. Introduction	368
1.1. Attentional bias components	368

* Corresponding author. Department of Medical and Clinical Psychology, USUHS, 4301 Jones Bridge Road, Bethesda, MD 20814, USA.

E-mail address: marian.tanofsky-kraff@usuhs.edu (M. Tanofsky-Kraff).

¹ These authors contributed equally to this work.

1.2.	Attentional bias measurement and paradigms	368
1.3.	Theory and current study	370
2.	Methods	370
2.1.	Literature search and study selection	370
2.2.	Data abstraction and analysis	370
3.	Results	371
3.1.	Study characteristics	371
3.2.	Emotional Stroop	371
3.3.	Visual probe task	377
3.4.	Spatial cueing task	377
3.5.	Visual search paradigm	377
3.6.	Eye tracking	378
3.7.	EEG	381
4.	Discussion	381
4.1.	Food cues	381
4.2.	Weight- and shape-related cues	381
4.3.	Threatening cues	384
4.4.	Integration of AB types in disorders of binge eating	384
4.5.	Recommendations for future research	384
5.	Conclusions	387
	Disclosures	387
	Disclaimer	387
	Research support	387
	References	387

1. Introduction

Binge eating is the hallmark behavior of binge-eating disorder (BED), bulimia nervosa (BN), and the binge-purge subtype of anorexia nervosa (AN-B/P; [American Psychiatric Association, 2013](#)). Even among individuals who do not meet diagnostic criteria for an eating disorder, the presence of binge and loss of control (LOC) eating confers risk for elevated eating disorder psychopathology, psychosocial distress, excess body weight, and clinical impairment ([Tanofsky-Kraff, Yanovski, & Yanovski, 2011](#); [Vannucci et al., 2013](#)). Therefore, it is important to identify mechanisms that contribute to the etiology and/or maintenance of binge eating behaviors so that potentially modifiable risk factors can be identified for targeted interventions.

Attentional bias (AB) refers to the differential allocation of attention to particular stimuli and represents one facet of selective attention ([Cisler & Koster, 2010](#)). Maladaptive AB has been theorized to contribute to psychopathology (M. [Field & Cox, 2008](#); [Williams, Mathews, & MacLeod, 1996](#)) and psychological problems such as eating disorders ([Aspen, Darcy, & Lock, 2013](#)), anxiety ([Cisler & Koster, 2010](#)), and substance abuse (M. [Field & Cox, 2008](#); [Franken, 2003](#)). It is currently unknown if AB is triggered by an automatic response to the stimulus category (e.g., high-calorie food in general), or whether AB is evident when content directly related to participant's fears, such as specific high-calorie foods, is presented ([Pergamin-Hight, Naim, Bakermans-Kranenburg, van Ijzendoorn, & Bar-Haim, 2015](#)). Systematic reviews and meta-analyses have summarized the existing data concerning associations between eating disorders and biases in attention and information processing ([Dobson & Dozois, 2004](#); [Giel et al., 2011](#)). Prior reviews have focused primarily on AB to food and body weight/shape in samples with full-syndrome BN and AN-B/P, and there is limited summative information on AB in binge/LOC eating or BED ([Dobson & Dozois, 2004](#); [Giel et al., 2011](#)). While AB may be an implicit manifestation of risk factors for binge/LOC eating across the binge eating spectrum, such as preoccupation with food, eating, and weight/shape (A.E. [Field et al., 2008](#); [Stice, Presnell, & Spangler, 2002](#)), it is conceivable that risk factors that are less content-

specific but linked to LOC also manifest as AB. These include rumination about psychosocial stressors ([Nolen-Hoeksema, Stice, Wade, & Bohon, 2007](#)) and intolerance of aversive affective states such as anxiety ([Werthmann, Jansen, & Roefs, 2015](#)). However, previous reviews have not examined AB to anxiety-inducing stimuli (e.g., threat cues) among those with binge eating behaviors, and to date no existing AB review has encompassed the full spectrum of binge eating disturbances.

1.1. Attentional bias components

A number of terms are used to describe the AB components, given that AB involves distinct but related aspects of selective attention ([Cisler & Koster, 2010](#); [Ouimet, Gawronski, & Dozois, 2009](#)). *Facilitated attentional engagement* is the speed with which attention is drawn towards a salient stimulus (e.g., preferred food) relative to non-salient stimuli. Difficulty with *attentional disengagement* is the degree to which a salient stimulus captures attention and impairs the shifting of attention away from that stimulus. By contrast, *attentional avoidance* is the preferential allocation of attention away from salient stimuli ([Koster, Crombez, Verschuere, Van Damme, & Wiersma, 2006](#)).

It has also been proposed that AB be conceptualized according to information processing theory stage ([Shiffrin & Schneider, 1977](#)). Specifically, automatic “bottom-up” cognitive processing is stimulus-driven and occurs without purpose or awareness, while strategic “top-down” cognitive processing is goal-oriented and dependent on conscious awareness ([Cisler & Koster, 2010](#); [Ouimet et al., 2009](#)). Combining the two models, “bottom up” attentional engagement involves automatic and/or strategic processing stages, depending on the duration that attention is sustained ([Ouimet et al., 2009](#)). Disengagement and avoidance appear to be mediated primarily by strategic “top down” processing mechanisms ([Cisler & Koster, 2010](#)).

1.2. Attentional bias measurement and paradigms

Attention can be measured via reaction time to a stimulus,

Download English Version:

<https://daneshyari.com/en/article/7305954>

Download Persian Version:

<https://daneshyari.com/article/7305954>

[Daneshyari.com](https://daneshyari.com)